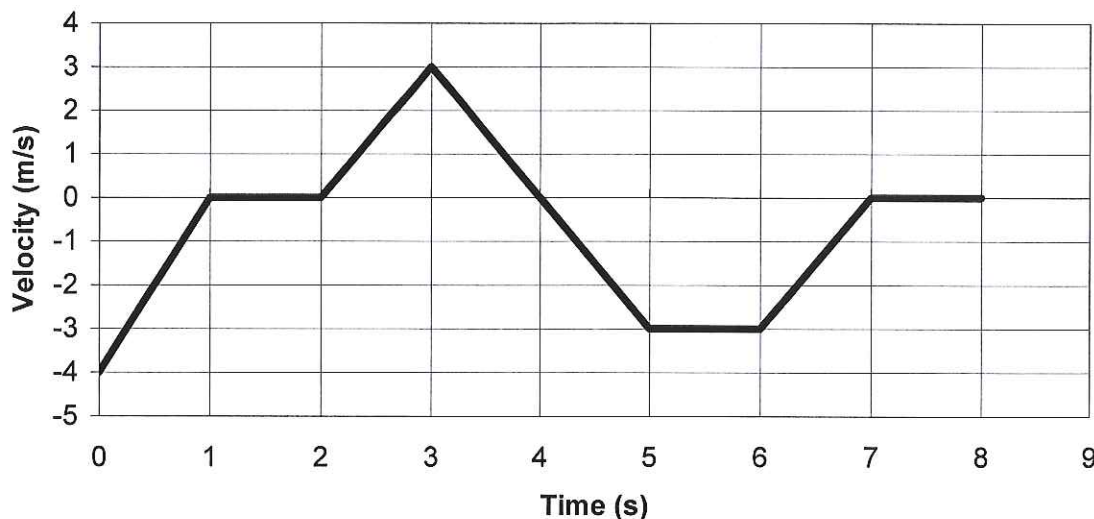


Name Key Period: September 26, 2014

## Graphing worksheet

Velocity vs Time



1. What **distance** does the object cover over the time interval  $0 < t < 4$ s.

$$\Delta x = \frac{1}{2}(1)(-4) + 0 + \left(\frac{1}{2}\right)(2)(3) = 5m$$

2. What **distance** does the object cover over the time interval  $4 < t < 7$ s.

$$d = \frac{1}{2}(1)(3) + 1(3) + \frac{1}{2}(1)(3) = 6m$$

3. What is the **displacement** of the object over the time interval  $0 < t < 4$ s.

$$\Delta \vec{x} = \frac{1}{2}(1)(-4) + 0 + \frac{1}{2}(2)(3) = 1m\hat{x}$$

4. What is the **displacement** of the object over the time interval  $0 < t < 7$ s

$$\Delta \vec{x}_{5-7} = \frac{1}{2}(1)(-3) + 1(-3) + \frac{1}{2}(1)(-3) = -6m\hat{x} \text{ so TOTAL } \Delta \vec{x} = -5m\hat{x}$$

5. What is the **acceleration** of the object over the time interval  $3 < t < 5$  s.

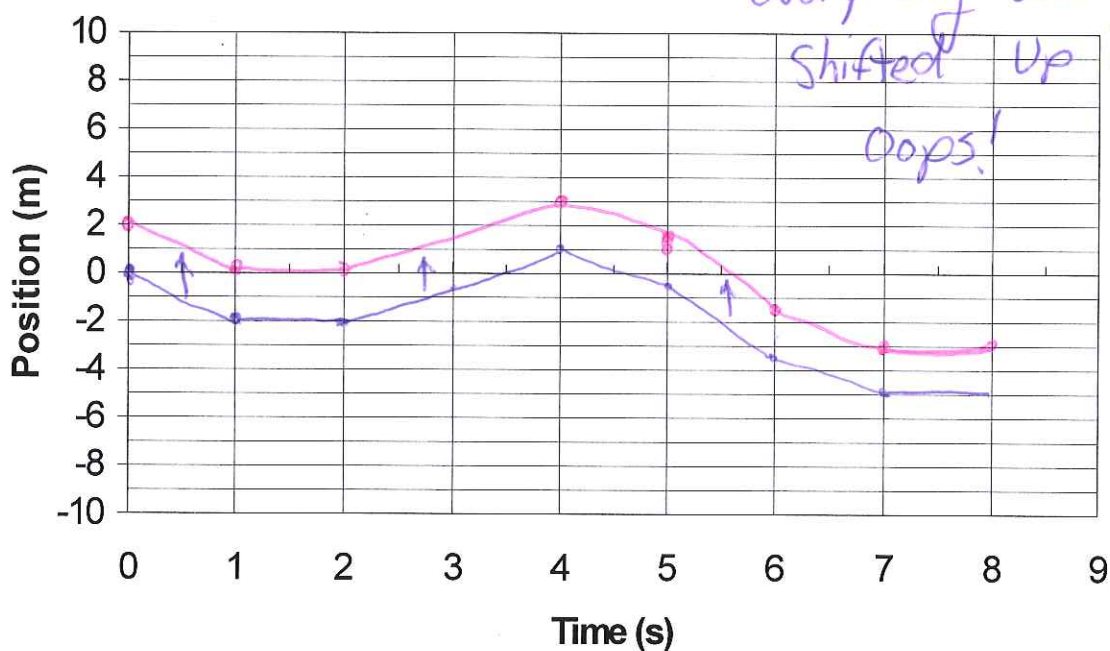
$$\vec{a} = \frac{\Delta \vec{v}}{\Delta t} = \frac{-6}{2} = -3m/s^2$$

6. What is the **acceleration** of the object over the time interval  $5 < t < 6$  s.

$$\vec{a} = 0m/s^2$$

Please plot the Position vs. the Time graph on the Graph below when  $t = 0$  s then  $x = 2$  m.

**Position vs Time**



Please plot the Acceleration vs. the Time graph on the Graph below.

**Acceleration vs Time**

